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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,199	02/12/2004	Tosiyuki Umeda	248679US2SRDCONT	2757

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ALEXANDRIA, VA 22314

EXAMINER
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NGUYEN, MINH T

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,199

Applicant(s)

UMEDA ET AL.

Examiner

Minh Nguyen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/207,024.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/13/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's amendment filed on 12/8/04 has been received and entered in the case. The amendment presented therein overcomes the informality objections and double patenting rejections noted in the previous Office action, and therefore, these are withdrawn. However, the prior art rejection to claim 1 is remained for the reason set forth below. This action is FINAL.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fukayama, European Patent Application No. 488,257 (the reference is listed in the PTO-1449).

Fukayama discloses a frequency converter (Fig. 12) which converts a first current signal (the current at the collector of TR1) having a first frequency (RF, abstract, line 3) into a second current signal (the current at the collector of TR3) having a second frequency (IF, abstract, line 13) different from the first frequency (radio frequency  $\diamond$  intermediate frequency, also see the title), comprising:

adding means (the intersection node of the collectors of TR1, TR2 and emitter of TR3) for adding the first current signal (the current at the collector of TR1) and a reference current (the

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current at the collector of TR2) to output a third current signal (the current at the emitter of TR3); and

passing means (transistor TR3) for passing a larger current component of the third current signal to obtain the second current signal (the current at the collector of TR3 is less than the current at the emitter of TR3), when the third current signal includes the larger current component which is larger in magnitude than a threshold current (the threshold current is the current required to turn ON transistor TR3), and blocking a smaller current component of the third current, when the third current signal includes the smaller current component which is smaller in magnitude than the threshold current (this is merely a basic operation of a transistor, i.e., larger than a threshold current, pass; less than the threshold current, block).

### ***Response to Arguments***

3. Applicant's argument filed on 12/8/04 has been fully considered but it is not persuasive.

The applicant argues that the description "the threshold current in Fukayama is the current required to turn ON transistor TR3" is not found in Fukayama.

The examiner notes that such fact is merely the way a transistor is operated and should not be described in the specification of a patent because it can be found in any basic micro-electronic books. The applicant is urged to study the passing means shown in Fig. 3 of the present invention, i.e., the passing means is also a transistor (transistor M2). In other words, if a transistor had not functioned that way, transistor M2 shown in Fig. 3 of the present invention could not function as a passing means.

***Allowable Subject Matter***

4. Claims 2-4 are allowed for the reasons noted in the previous Office action.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is 571-272-1748. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



1/7/05

Minh Nguyen  
Primary Examiner  
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